REMARKS

A total of 47 claims remain in the present application. The foregoing amendments are presented in response to the Office Action mailed September 23, 2005, wherefore reconsideration of this application is requested.

By way of the above-noted amendments, claims 31-56 have been withdrawn as directed to a non-elected species. Applicant reserves the right to file one or more divisional applications directed to claims 31-56 at any time prior to issuance of a patent in the present application.. Paragraph [0001] of the specification has been amended to correct the claim of domestic priority, by properly defining the relationship between the present application and the parent United States Patent Application No. 09/809,218, filed on March 16, 2001.

In preparing the above-noted amendments, careful attention was paid to ensure that no new subject matter has been introduced.

Referring now to the text of the Office Action:

- The claims are subject to a restriction requirement under 35 U.S.C. § 121;
- claims 1,7-9,15, 16, 22-24, 57, 64-66 stand rejected under 35 U.S.C. § 102(e), as being unpatentable over the teaching of United States Patent No. 5,835,848 (Bi et al);
- claims 30, 58 and 72 stand rejected under 35 U.S.C. § 103(a), as being unpatentable over the teaching of United States Patent No. 5,835,848 (Bi et al); and
- claims 2-6, 10-14, 17-21, 25-29, 59-63 and 67-71 are objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As an initial matter, applicant appreciates the Examiner's indication of allowable subject matter in claims 2-6, 10-14, 17-21, 25-29, 59-63 and 67-71. The Examiners claim rejections under 35 U.S.C. §§102(e) and 103(a) are believed to be traversed by the above-noted claim amendments, and further in view of the following discussion.

Rejections under 35 USC § 102(e)

At paragraph 6 of the Detailed Action, the Examiner argues, with reference to claims 1, 16, and 57 that "Bi teaches a repeater comprising: a signal generator adapted to generate a signature signal associated with the repeater (Bi see especially FIG. 2, item 40, col 2, lines 53-65), a first modulator adapted to insert the signature signal into a first RF signal transmitted by the repeater (Bi see especially FIG. 2, item 27); a detector adapted to detect a correlation between the signature signal and a second RF signal received by the repeater (Bi see especially FIG. 2, item 36); and a controller adapted to control an effective radiated power (ERP) of the first RF signal transmitted by the repeater, based on the detected correlation (Bi see especially col 3, lines 1-18. With respect, Applicant believes that Bi fails to support the Examiner's interpretation.

In particular, Bi teaches an interference cancellation system, in which leakage is reduced "by using a feedback signal whose amplitude and phase are adjusted in response to the amplitude and phase of a sampled input signal when a switch turns off the normal output of the repeater for a short period of time. In one embodiment, a pilot signal is transmitted during this time period so that the sampled input is the leakage signal. In another embodiment, the sampled input is the normal transmission signal received during the time period." (Abstract)

> "In operation, during normal transmission from the base station to the terminal, the sampled output signal picked up by directional coupler, 30, will provide a feedback signal which is adjusted in gain and phase by circuit 31 and delayed by delay line 32 so as to match the gain and delay of any leakage signal from antenna 14 to antenna 13, but which is 180 degrees out of phase with the leakage signal. Thus, when the feedback signal is introduced in coupler 33, the leakage signal will be subtracted from the desired transmitted signal.

In order to establish the appropriate settings for gain, phase, and delay, the circuit makes use of coupler, 35, which picks up the signals appearing on cable 34. The log detector, 36, will convert the RF signal to a detected signal in volts on a log scale and transmit the signal to the low level detector, 38. When the detected signal falls below a predetermined desired value, e.g., 0.5 volts, the low level detector, 38, will turn off (open) RF switch, 24. At the same time, the low level detector will trigger the VCO, 40, to transmit a pilot signal to coupler 41 and onto cable 42. The pilot signal will typically be in the form of a 100 nanosecond burst of RF, whose center frequency is mid band of f.sub.1 or f.sub.2. The pilot signal will be transmitted through amplifier, 25, duplexer 27, antenna, 14, and over the leakage path, 28, to be received by antenna 13 and sent through duplexer, 21, and amplifier, 23. A portion of the pilot signal will also be picked up by coupler, 30, and sent over the feedback path which includes the gain and phase adjuster, 31, and the delay line, 32. The coupler, 35, will pick up a portion of the pilot signal which was transmitted over the leakage path, and the log detector, 36, will convert the RF signal into a detected signal. The resulting signal will be sampled and held by the circuit, 37, and transmitted to a null circuit, 39, which will compare the just-received sample to a sample which was taken during a previous test interval to determine if the amplitude of the leakage (pilot) signal is increasing or decreasing. Based on this comparison, the null circuit, 39, will transmit a signal over leads 43 and 44 to adjust the gain and/or phase of the feedback signal in order to reduce the interference from the leakage signal. The delay line, 32, can also be adjusted during initial set up of the repeater to match the delay of the leakage signal by trimming its length." (Col 2. ine43-col.3 line 18, Underlining added)

Thus it will be seen that Bi explicitly teaches that a pilot signal generated by VCO 40 is transmitted through antenna 14 during an interval when the RF switch 24 is opened. As such, the person of ordinary skill in the art will recognise that the system of Bi does not "insert the signature signal into a first RF signal transmitted by the repeater" as required by claims 1, 16 and 57. Rather, Bi replaces the first RF signal, by opening RF switch 24 (thus interrupting the first RF signal) and then transmitting the pilot signal while the RF switch is open.

It will also be seen that the log detector 36 merely detects the power level of an RF signal received through antenna 13. During the interval in which the RF switch 24 is opened, this detected power level will include signal components due to an external signal received from other RF transmitters, plus the pilot signal via leakage path 28. The person of ordinary skill in the art will appreciate that the log detector 36 is utterly incapable of performing a correlation function, as required by the present invention. This is both inherent to the well-known nature of a log detector, and acknowledged by Bi et al in the statement "When the detected signal falls below a predetermined desired value, e.g., 0.5 volts, the low level detector, 38, will turn off (open) RF switch, 24. At the same time, the low level detector will trigger the VCO, 40, to transmit a pilot signal to coupler 41 and onto cable 42." (Col 2, lines 58-62) Clearly, restricting transmission of the pilot signal (and thus adjustment of the feedback gain and phase) to periods where the received RF signal is at a low level implies an inability of the log detector 36 to discriminate between the pilot signal received via the leakage path 28 and any other signals received by antenna 13. As such, the person of ordinary skill in the art will recognise that the log detector 36 of by does not perform a correlation function of any kind, much less correlate a received signal with the transmitted signature signal, as required by the claimed invention.

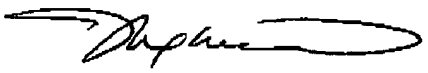
Finally, Bi et al explicitly teach that the signal power detected by the log detector 36 during an interval in which the pilot signal is being transmitted, is stored in the sample and hold circuit 37, and subsequently used by the null circuit 39 "to adjust the gain and/or phase of the feedback signal in order to reduce the interference from the leakage signal" (Col 3, lines 11-15). Thus it will be seen that Bi et al do not teach or suggest controlling an ERP of the first RF signal transmitted by the repeater. Rather, Bi et al teach that gain and/or phase of the feedback signal are varied.

In light of the foregoing, it will be seen that Bi et al do not teach or fairly suggest all of the elements of the present invention as defined in claims 1, 16 and 57. None of the known prior art references provide the missing teaching, wherefore it is believed that the presently claimed invention is clearly distinguishable over the teaching of the cited references, taken alone or in any combination.

Accordingly, it is believed that the present application is in condition for allowance, and early action in that respect is courteously solicited.

If any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this response, such extension is hereby respectfully requested. If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 19-5113.

Respectfully submitted,



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